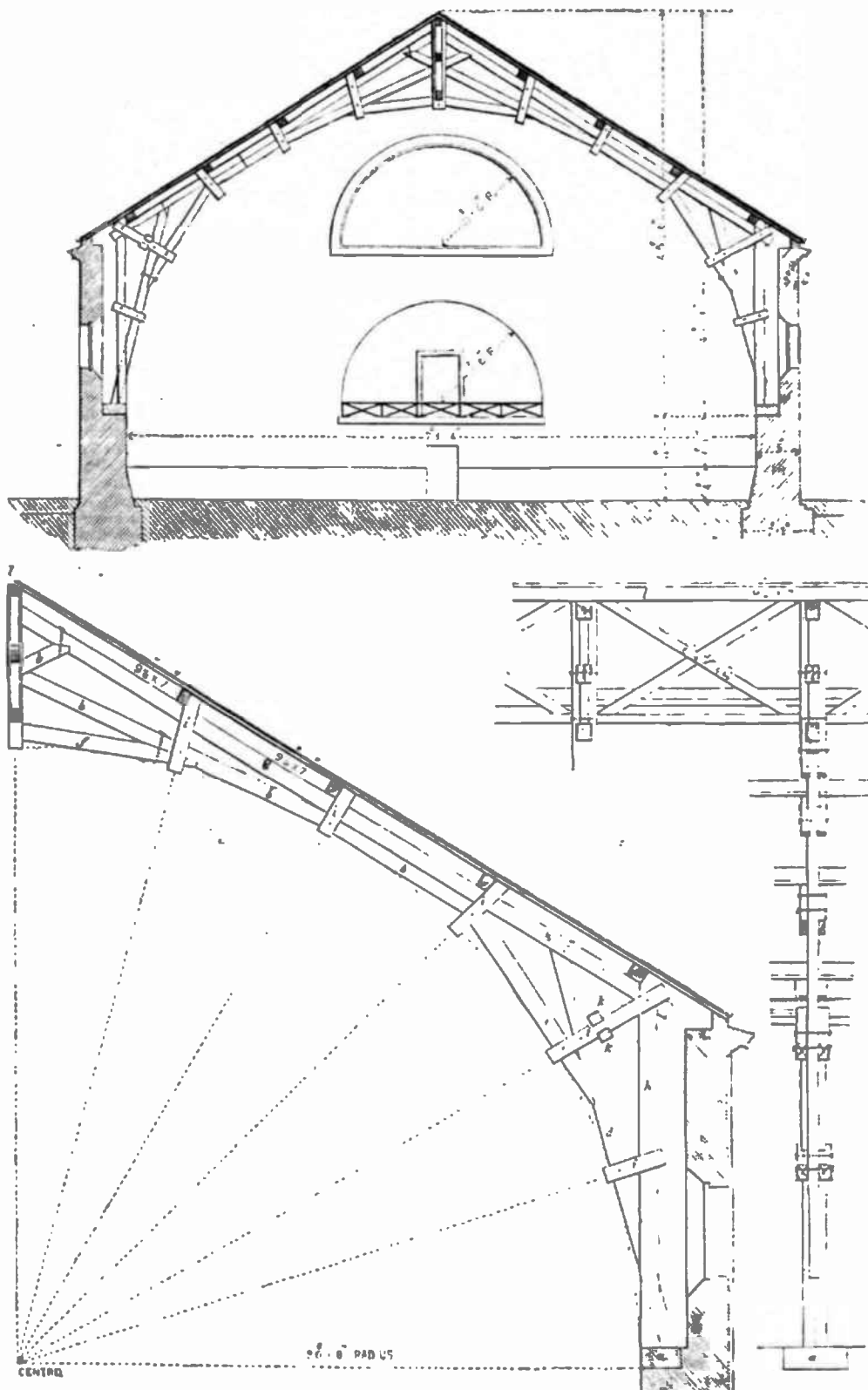


ROOF, FRENCH 'RIDING' SCHOOLS.



WOOD ROOFS OF LARGE SPAN.

ALLUSION having been made to the work of Colonel Ardant upon wood roofs of great spans, it appeared to me that it might interest your readers were I to furnish them the means of judging of the practical skill of that distinguished officer. Annexed, therefore, is a sketch of a roof, executed under his orders, for the riding schools of some of the cavalry barracks in France.

The object Colonel Ardant has proposed to himself in this case, is to arrive at the suppression of the tie-beam without throwing the lateral effort of the principal rafters on the external walls. Colonel Émy attained this result by means of the bent timber beams; but, in some parts of France, it is next to impossible to obtain plank-stuff at reasonable prices, and squared oak timber exists in profusion. Wherever fir can be had the engineer officers employ the bent timber roofs for the

purposes above alluded to, namely, for roofs of large span without horizontal tie beams. In other cases the model adopted is the one invented by Colonel Ardant.

The scantlings used are as follows:—

Wall plate, *a*, large oak blocks at foot of each principal, 3 feet 4 inches long, by 2 feet 4 inches wide, by 1 foot thick. These dimensions are not difficult to find in France. Tie beam, composed of polygon, *f*, *b*, *c*, *d*, 11½ inches by 8 inches. Principal rafters,